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PREPARATIONS FOR THE UNITED NATIONS CONFERENCE ON ENVIRONMENT AND DEVELOPMENT ON THE BASIS OF GENERAL ASSEMBLY RESOLUTION 44/228 AND TAKING INTO ACCOUNT OTHER RELEVANT GENERAL ASSEMBLY RESOLUTIONS:

CROSS-SECTORAL ISSUES

Progress Report on Financial Resources

Report of the Secretary-General of the Conference

The Preparatory Committee, at its first substantive session, in decision 1/29, "... requested the Secretary-General of the Conference to submit to it at its Second Session a Progress Report on the implementation of relevant provisions of General Assembly resolution 44/228 of 22 December 1989 related to financial resources and transfer of technology, in particular those of paragraphs 15 (j), (k) and (m) of Section I".

The secretariat has initiated a process of assembling and analysing existing information and consulting concerning new ideas and initiatives in respect of the important issue of financial resources to developing countries. This report deals with the issues which need to be considered by the Preparatory Committee at this stage so as to guide the secretariat in its further work on the subject. A separate document, A/CONF.151/PC/17 deals with issues which need to be considered with regard to transfer of technology.

1. The Context

All countries must be able to continue their development efforts. The right of developing countries to develop cannot be compromised by conditions or constraints imposed on resource flows in the name of environment. In fact, an acceleration of development will be necessary to deal with many environmental issues. Beyond that, there is general recognition that there are critical environmental issues which must be dealt with primarily within a national context, and others which have regional or world-wide implications.

Within this context, the first question is how to achieve more rapid environmentally sound economic and social development. Job creation, sustainable agriculture, education, and better health and population programmes, for example, are all part of a process empowering individuals to deal with environment issues. The pace of development, of course, depends upon a country's own policies and management. Development, even in poorer countries, is financed mostly from a country's own resources. Improved strategies and management and increased efforts at national resources mobilization will be necessary. Yet, supplementary resources from outside can make a critical contribution. World aid levels have remained about the same over the past decade and one key question is whether, and how, regular aid programmes for general development may be substantially increased in the 1990s.

At the national level, dealing with environmental problems - air and water pollution, toxic chemicals, etc. - will require preventative as well as curative measures. In some cases such measures may be cost-saving. But in most cases they will require additional funding from internal or external sources.

It is important for each country to develop cross-cutting strategies for dealing with national environmental issues in the development context. These should encompass the optimum mix of regulatory and economic measures, creating incentives for all parts of society to behave in an environment-saving way. Having said this, it should be underlined that implementation of an effective environment strategy will almost certainly require additional capital resources. With the extra pressures which accrued in the 1980s, developing countries will need substantial additional amounts of highly concessional financing from the outside for this purpose.

For the global issues, there is a special case for additional financing beyond amounts usually available for supporting more rapid development. The most important contribution to solving global problems in the short run will be through action in the industrial countries, which will have to find funding for this purpose through re-allocation of internal resources. But, increasingly, poorer developing countries will become partners in dealing with the global issues, and these will need substantial outside financing in order to enable them to take action which quite often arise from problems not of their making or which generate benefits of a global character.

While the above categories of effort (general development, national environmental programmes, and global environmental problems) are useful from an analytical point of view, in real life it is often hard to separate one from the other. For example, a national reafforestation programme makes sense

from a general development point of view, but also deals with a national environmental problem and contributes to the solution of global environmental issues.

The following paragraphs address specific institutions or processes which can be helpful in meeting the need for outside financial resources. UNCED 1992 and the preparatory process leading to it offer an opportunity for member States to consider how these institutions can be strengthened or processes implemented to improve financial flows for environment and development.

2. Agenda 21

The wide range of measures which the Preparatory Committee will be considering for recommendation to the Conference as part of "Agenda 21" will give rise to substantial financial needs at both national and international levels. At the international level the costs of these measures will be reflected in the need for expanded capacities of the multilateral agencies, particularly the agencies, organizations and programmes of the United Nations system which in turn will require substantial increases in the funds they will require. In each case, such measures must incorporate provision to ensure the full participation of developing countries. The UNCED secretariat and its Working Parties are endeavouring to estimate the costs of each of the measures to be included for consideration by the Preparatory Committee as part of Agenda 21. The following questions are amongst those the Preparatory Committee may wish to include in its consideration of this matter:

(i) To the extent that the measures provided for in Agenda 21 require long-term increases in and strengthening of the capacities of the agencies, organizations and programmes charged with implementing them, what proportion of the costs of this should be met from increases in their regular budgets and what proportion should be met through increases in voluntary funding?

(ii) Should these internal regular budget or voluntary funds continue to be augmented by outside catalytic funding for environmental activities from the Environment Fund of UNEP and from contract work for UNDP as "executing agencies" for development work?

(iii) To what extent will existing mechanisms and resource flows contribute to implementation of Agenda 21 and to what extent must they be met from "new and additional" financial resources?

3. Funding Required Under Conventions and Protocols

Most existing and new conventions, protocols and related legal instruments designed to deal with environment-related issues require provision for financing their administration and in some cases their implementation. The amendments agreed at the meeting in London, United Kingdom, in June 1990 of parties to the Montreal Protocol of the Vienna Convention for the Protection of the Ozone Layer agreed to incorporate in it provision for transfer of technology to developing countries and financial assistance to them in meeting the incremental costs of the measures they undertake in acceding to the Protocol. While the circumstances of this Protocol are of a somewhat unique nature, it is nevertheless recognized that provision for

financing and transfer of technology will be an essential component of major new environmental conventions. This will be particularly true of conventions on climate, bio-diversity and possibly forestry, which are now being initiated and for which the requirements of funding and technology transfer may be substantially higher and extend over much longer periods of time than those provided in the London amendments to the Montreal Protocol.

In respect of these needs, the Preparatory Committee may wish to consider the following questions:

(i) Should the funding arrangements provided for in such agreements be based on the principle of meeting the full incremental costs to developing countries of acceding to them, as in the case of the London amendments to the Montreal Protocol?

(ii) Should funds required under such instruments, particularly in respect of assistance to developing countries, be provided directly by the parties to each legal agreement through a separate mechanism such as a trust fund or through an overall funding mechanism through which the resources required in respect of all or several of such legal agreements would be channelled?

(iii) Similar questions arise as to the administration of such funds. (See Section 8 below.)

4. Capacity Building in Developing Countries

Limitations on the scientific, technological and professional resources of developing countries and in their related institutional and human development capacities have long been recognized as a serious constraint on the development of many of them. It is also a severe and growing constraint on their capacity to participate fully and equally in international environmental co-operation and in integrating environment fully into their development policies and practices. Developing countries are already receiving support from multilateral and bilateral sources in developing and strengthening these capacities through programmes of UNEP and others in developing environmental skills, legislation and institution building. Nevertheless, it is clear that, as recommended by the World Commission on Environment and Development, substantially higher levels of support will be required over extended periods of time if these countries are to develop the institutional capacities and human resources they will require to make the transition to sustainability in their own development and to participate fully in programmes of international environment and development co-operation, while reducing their dependence on more developed countries.

The recent initiative of UNDP in supporting the establishment of Sustainable Development Networks in developing countries provides a promising framework for this.

The UNCED secretariat is making special efforts in co-operation with UNDP, the World Bank and other agencies and organizations to consult with developing countries concerning these needs. Each working party set up by the UNCED secretariat to help prepare the documents required by the Preparatory Committee has been asked to evaluate and cost these needs in each area. Also, through the UNDP Resident Representatives, developing countries are being

consulted directly in respect of their particular needs. As a result, the secretariat expects to be able to provide the Preparatory Committee with estimates of the costs of meeting such needs. In considering these needs and how they might best be met, the Preparatory Committee may wish to address the following questions:

(i) To what extent is it feasible for these "capacity building" needs to be met from existing resource flows to developing countries and to what extent must they be met from "new and additional" financial resources?

(ii) To the extent that new and additional resources are required, can they best be provided through existing funding institutions and mechanisms and is there a need for changes in or additions to these?

5. Additional Needs of Developing Countries

In addition to the particular needs referred to above, developing countries will require substantial increases in the external resources available to them to enable them to integrate provision for protection and improvement of the environment into their ongoing development policies and practices while achieving the increased levels of development required to meet the needs of their people. The linkage between environment and development will often reduce or remove the distinction between environment and development costs as environmental needs are seen as important in development terms. These needs must include the alleviation of poverty which is as important in environmental terms as it is in development and humanitarian terms. Substantial increases were recommended by the World Commission on Environment and Development.

The work being undertaken by the UNCED secretariat on environment and development and on the relationship between poverty and the environment will include an attempt to assemble and evaluate for presentation to the Preparatory Committee the best available information on these needs and the costs and means of meeting them.

This issue will be of critical importance to the Conference and its outcome. In considering it, the Preparatory Committee will clearly wish to:

(i) Examine the nature and magnitude of these needs as well as the prospects for and means of meeting them, which are referred to in more detail in paragraph 7 below;

(ii) How such needs can be met without imposing new forms of conditionality or distorting the development priorities of developing countries;

(iii) What criteria should be used to establish "additionality" over and above present levels of official development assistance?

6. Environmental Programmes

In 1972 the United Nations General Assembly established a voluntary fund, the Environment Fund of UNEP "to provide additional finances for environmental programmes". This Fund has been an indispensable source of support for UNEP's

programmes in the areas of assessment, management and supporting activities, particularly in respect of developing country participation in them. The modest level of the resources made available to the Fund has imposed severe constraints on UNEP's programme and activities at a time when the needs for and demands on UNEP have been growing substantially. Major increases will be required in UNEP's programme and budget in the period ahead, particularly as a result of decisions to be taken at the 1992 Conference and these will need to be accompanied by significant increases in contributions to the Fund of UNEP, as recommended by the World Commission on Environment and Development.

The Executive Director of UNEP has called for an increase in the Fund of UNEP to a level of $250 million annually and his recommendations will be considered at the next meeting of UNEP's Governing Council. In the meantime, a number of countries have increased their contributions to the Fund which have augmented the resources available to it while falling short of the current target of $100 million per year set by UNEP's Governing Council.

The following are some of the questions the Preparatory Committee may wish to consider in respect of the Environment Fund of UNEP in light of any views which may be expressed or recommendations made by the Governing Council of UNEP:

(i) Does the Fund in its current voluntary form continue to be the optimum means of financing UNEP and its programme or are changes needed?

(ii) What should be the appropriate relationship between the Fund of UNEP and the support that UNEP receives from the Regular Budget of the United Nations?

(iii) Should the Fund of UNEP be utilized, as originally envisaged, to support or catalyze programmes and activities of an explicitly environmental nature or should it also be utilized to support or catalyze related development activities?

(iv) To what extent should the Fund be utilized to provide direct support of the environment-related programmes and activities of other United Nations system agencies and organizations, as well as those co-operating organizations outside the United Nations system? And to what degree should these organizations be obligated to pick up funding for continuing activities that have been catalyzed by UNEP?

(v) What should be the appropriate relationship between the Fund and other United Nations system funding mechanisms such as UNDP, UNFPA, the Global Environmental Facility recently established by the World Bank in co-operation with UNDP and UNEP, and the various voluntary funds that have been set up to meet special needs and purposes relevant to environment and development?

(vi) In light of the recommendations of UNEP's Governing Council and the programme and budget it adopts as well as the new and additional tasks which UNEP may be called upon to take as a result of decisions of the Conference as well as its decisions on the questions raised above, what additional level of funding will need to be provided to the Fund? What would be the most effective way of providing such

funds - by general increase in voluntary contributions, by special trust funds for such activity or by other, broader funding mechanisms like the Global Environment Facility?

7. Sources of Funding

Although a good deal more work must be done before more definitive estimates of the needs referred to above can be made available to the Preparatory Committee, it is already evident that the amounts required will be far beyond current levels of funding and will require an in-depth re-examination of existing sources and methods of funding and consideration, as required by General Assembly resolution 44/228, of new and innovative approaches to meeting these financial needs. This will clearly involve new thinking and a major change in existing priorities, particularly by industrialized countries. It comes at a time when all are experiencing growing constraints and pressures on their own national budgets and resistance by citizens to new taxes. The costs and economic disruptions of the Gulf War will undoubtedly exacerbate these difficulties.

On the other hand, there is also growing evidence of deepening environmental concern on the part of people accompanied by more and more acceptance of the need to meet the costs of protecting the environment. This is accompanied by the prospect of reductions in military expenditures together with recognition that environmental risks must also now be seen in terms of national and global security. People and nations have always been willing to give priority to meeting threats to their security and to the extent that they begin to consider environmental risks in security terms they may be more willing to accept the costs of avoiding these risks.

Against this background, the UNCED secretariat is initiating studies and consultations on the potential sources of funding to meet these needs and the means of accessing these sources, particularly in relation to the following issues which the Preparatory Committee will wish to consider in this respect:

(i) The extent to which existing sources of Official Development Assistance will contribute to meeting these needs;

(ii) The importance of ensuring that funding is provided on a consistent and reliable basis over time, which in turn raises the question of the appropriate balance between mandatory and voluntary sources of funding;

(iii) The degree to which the principle of burden-sharing should be applied to new and additional sources of funding and the degree to which it is appropriate to continue to rely on voluntary funding on a basis that does not give effect to burden-sharing;

(iv) The possibilities of imposing levies, taxes, or user fees on environmentally-damaging activities or products, such as a carbon tax, and utilizing part of the proceeds to provide the new and additional financial resources required to meet international funding needs;

(v) The possibilities that some portion of the needs for new and additional financial resources may be provided through debt reduction, including innovative approaches like "debt-for-nature" swaps;

(vi) The possibilities that new and additional resources might be made available to developing countries through establishment of a system of tradeable emission permits as proposed by UNCTAD;

(vii) The degree to which new and additional resources may be made available through private investment and the measures required to encourage and facilitate this;

(viii) The prospects for and feasibility of establishing a non-governmental or "people's" fund which would solicit contributions and investment from individuals and other private sources, preferably with the encouragement and support of governments, to help meet the new and additional financial needs, particularly those which can best be met through non-governmental organizations and programmes;

(ix) The extent to which each of the particular financial needs referred to above are to be met by separate, individual appeals to governments and/or other funding sources and the related question as to whether there should be a separate mechanism to which all, or most, international funding needs would be addressed and which would be the instrument for raising from governments and other sources the funds required to meet these needs.

8. Financing Mechanisms

Although the possibility is raised above of establishing a new mechanism for accessing and raising the funds to meet agreed international needs, or some portion of them, the raising of new and additional financial resources does not necessarily require creation of new organizations or mechanisms for dispensing and deploying these resources. The World Bank, the Regional Development Banks, UNDP and the various other agencies, organizations and programmes of the United Nations system have existing and well-established capacities which can be used to manage such new and additional funds.

There have been several proposals for creation of new funds, including the Planet Protection Fund proposed by former Prime Minister Rajiv Gandhi of India and the Global Climate Fund proposed by the Netherlands. It is possible to conceive of establishing a new instrument for raising such funds while continuing to utilize existing organizations for managing and dispensing them.

Whether or not new funding organizations or mechanisms are established, it will be necessary to review and clarify the relationships amongst and respective roles of existing ones. In this respect the Preparatory Committee will want to consider such questions as:

(i) The relationship amongst and respective roles of the existing United Nations funding organizations, e.g. UNDP, the Fund of UNEP, UNFPA and other special funds, particularly in light of the movement towards integration of environment and development;

(ii) The relationship between new funding mechanisms such as the Global Environmental Facility, and legal agreements which provide for funding. For example, is funding to be provided only to those who become parties to such agreements?

(iii) The role of development funding organizations in financing environment-related development projects and activities. For example, UNDP resources currently fund environmental and related projects and programmes to the tune of $500 million. The World Bank and the Regional Development Banks are also providing substantially increased and growing amounts of funding to projects and programmes, as well as non-project, policy-related funding and structural adjustment programmes, that are environment-related;

(iv) The role of the Global Environmental Facility recently established by the World Bank in co-operation with UNDP and UNEP, which brings these issues into focus in more explicit terms, provides an important and concrete example of a new model designed to mobilize new and additional funds to meet specific environment-related development needs.

This Global Environmental Facility is seen as a pilot operation and the experience gained in its establishment and launching will be especially valuable in the consideration of these issues by the Preparatory Committee. The Global Environmental Facility was funded conventionally through voluntary contributions and its management will be integrated with that of the World Bank, in co-operation with UNDP and UNEP. Some of the main questions concerning the role of the Global Environmental Facility which the Preparatory Committee may wish to consider include the degree to which it will be largely a "topping up" fund providing the additional funds required to meet environmental requirements in respect of development projects which are otherwise financed from existing development funding sources and whether it should become the principal mechanism for financing the environmental component of development projects. Other important questions include whether future funding of the Global Environmental Facility will be on a voluntary or burden-sharing basis.

The UNCED secretariat has initiated studies and consultations which will enable it to provide the Preparatory Committee with information and analyses to facilitate its consideration of these important issues. The Preparatory Committee may wish to reserve its main consideration of these important issues until the results are available.

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PREPARATIONS FOR THE UNITED NATIONS CONFERENCE ON ENVIRONMENT AND DEVELOPMENT ON THE BASIS OF GENERAL ASSEMBLY RESOLUTION 44/228 AND TAKING INTO ACCOUNT OTHER RELEVANT GENERAL ASSEMBLY RESOLUTIONS: CROSS-SECTORAL ISSUES

Environmental health aspects of development

Progress Report of the Secretary-General of the Conference

Reference is made to Decision 1/28 of the Preparatory Committee for the United Nations Conference on Environment and Development (UNCED) which is addressed to the World Health Organization. In response, the WHO has prepared a first progress report which is submitted hereunder to the Preparatory Committee for its consideration.

In particular, the attention of the Preparatory Committee is drawn to the last section on the future work programme. A procedure and time schedule is outlined through which the results of the work of the WHO in the subject area of health and environment will be made available.

Background

The United Nations General Assembly in its forty-fourth session identified in resolution 44/228 "... protection of human health conditions and improvement of quality of life" as one of the major environmentally-related issues. At its first session, the Preparatory Committee for the United Nations Conference on Environment and Development decided that this issue would not be considered by their established two Working Groups, but that it would be dealt with as a cross-cutting issue. The first substantive session of the Preparatory Committee in considering this matter invited in decision 1/28 "... the World Health Organization, in co-ordination and consultation with the Secretary-General of the Conference, to contribute specific suggestions on the health dimension of environmental problems for further consideration in the preparatory process". It is opportune that the WHO Commission on Health and the Environment, established by the Director-General of WHO in early 1990, is conducting a comprehensive review of the linkages between health, environment and development. As part of this effort, the Commission will not only prepare a research agenda for the future, it will also recommend strategies for combating major health problems. The work and recommendations of the WHO Commission will provide the appropriate health inputs into the preparatory process of the United Nations Conference on Environment and Development. This report highlights some of the major health issues involved and provides a progress report on the work of the WHO Commission.

Health aspects of environment and development

Health is closely linked with the quality of the environment and the state of development. The lack of development in many countries continues to go hand-in-hand with deteriorating environmental conditions such as inadequate shelter, contamination of food and water and lack of sanitation, all of which exert a heavy toll on human health and life itself. Clearly social and economic development is needed to bring about a change for the better. Development itself, however, if not sustainable, brings with it adverse effects both for the environment and people. Examples of such effects abound: heavy air pollution in cities, severely contaminated water courses, deforested watersheds, and literally mountains of waste, some of which can be very hazardous. Many countries in Africa, Asia and Latin America are bearing the brunt of such counter development; losing vital resources as their populations continue to grow.

Health is an indispensable ingredient for sustainable development. As stated by a WHO Expert Committee in 1985 "Healthy people, and the energy that they expend in intellectual and physical labour, are vital for successful development. On the other hand, health is an important outcome of development, because it depends first and foremost on such factors as the availability of safe and nutritious food, uncontaminated water, a clean environment, a decent shelter, and an effective health care system that places emphasis on prevention. The promotion and protection of health at the community level should therefore be one of the objectives of the development

effort. Development without adequate consideration for health and environmental safeguards can prevent the improvement of living conditions for the very people whom the development effort was intended to benefit".

Each of the substantive issues considered by the two Working Groups of the Preparatory Committee have health dimensions, although to varying degrees; health considerations are central for dealing with urbanization, freshwater supplies, toxic chemicals, and hazardous wastes, but less so with issues such as biodiversity. With respect to climatic change, for example, health concerns include the effects on people exposed to changes of temperature, the spread of tropical diseases to currently temperate areas and the health problems arising from the creation of millions of environmental refugees, forced to abandon their homes by rising seas. Likewise, thinning of the ozone layer increases ultraviolet radiation, giving rise to an increase in skin cancers, among other health concerns. Desertification and drought have fostered nutritional problems while an adequate supply of fresh water is essential to prevent exposure to water-borne biological and chemical contaminants. The proper management of chemicals and hazardous wastes is very important for health; failure to do so can result in dangerous risks to human populations.

Communicable diseases constitute a major burden on human health, well-being and working capacity in many developing countries. Although these health concerns are not explicitly addressed by the Working Groups agenda, they are closely tied to development and environmental issues. They include diarrhoea, which kills approximately 5 million infants per year; malaria, which infects well over 100 million people annually; and, typhoid and cholera, which are endemic in many developing countries.

Many of the widely occurring communicable diseases have an environmental reservoir or pathway of the disease vector. Thus, the risk of resurgence of these communicable diseases depend upon the effective control of the environmental vector. The validity of such risks has been demonstrated in the past with malaria which increased after efforts to control the mosquito vector relaxed. More recently, the rapid expansion of irrigation schemes and other water development projects has led to a substantive resurgence of schistosomiasis in areas where it had almost vanished. About 200 million infections are reported per year with reduced working abilities as the main consequence for the development of the affected rural populations.

Another set of major health concerns arise from rapid and uncontrolled urbanization. Between a quarter and one half of all of the inhabitants in developing world cities live in overcrowded squatter settlements and slums and, according to estimates of the United Nations, by the year 2000 almost 52 per cent of the total world population will live in cities. As cities continue to swell, populations outstrip vital services such as the provision of clean water, sanitation, and medical care.

The WHO Commission on Health and Environment

The World Commission on Environment and Development, in its report in 1987, reviewed the relationship between development and environment and called for action on all fronts to reverse the trend of environmental degradation. It emphasized the crucial need to use the environment in a rational way in order to achieve sustainable development, defined as a "process .... ". Consequently, the WHO Director General, in his statement to the Forty-second World Health Assembly, announced his intention to convene a high-level technical expert commission on health and environment, and this body was established in early 1990.

The Commission comprises an independent group of 23 experts of international renown in the scientific, social and political fields. It is supported by four panels, each with a membership of about 10 experts, dealing with food production and agricultural practices, industrial activities, energy production and use, and urbanization. These four key issues have been identified as major driving forces in the process of development and major causes of environment-related health problems. The role of these panels is to gather and analyse data and to provide the expertise and background information necessary for the work of the Commission.

The overall objective of the Commission is to assess the consequences to human health of present and foreseen environmental factors associated with, or arising from, socio-economic development. The Commission is expected to make an authoritative statement on their importance, as well as identify the priorities and approaches for dealing with them.

Specifically, the objectives are to:

- describe the main environmental factors affecting human health - whether they promote health or are hazards to health - in the process of socio-economic development;

- identify the health consequences of exposure to these environmental factors, and to determine to the extent possible, the causal relationships;

- indicate the trends to be expected over the next two decades under foreseeable conditions, including the development of new technologies;

- indicate the research needed to better predict and understand the adverse health consequences of exposure to environmental factors;

- recommend to WHO and the world community strategies to prevent or mitigate the most serious environmental health trends.

Progress of the Commission to date

The Commission held its first meeting on 19-21 June 1990, including representatives from FAO, IAEA, UNCHS, UNICEF, UNFPA, UNEP, UNIDO, UNCED, CIOMS, OECD, and ICC. The Commission decided upon the scope of its work and agreed on its objectives and the organization of its work under the four main developmental driving forces. In addition, the Commission would consider separately a number of cross-sectoral issues. These include problems such as population growth and migration, problems of transportation, as well as the interaction of these with the four main driving forces. The Commission also intends to consider the ethical implications of the problems of environment and health and of the choices they imply for society.

The Commission has asked all Panels to consider, inter alia, procedures for the risk assessment of individual pollutants from various sources; the implications of new and future developments, e.g., biotechnology, alternative fuels, etc.; the development of data for the application of cost/benefit approaches as a basis of policy guidelines for decision makers; and the assignment of priorities to issues of general environment and public health impact. In general, the Commission and its Panels intend to be highly selective in the issues to be dealt with, highlighting those problems of primary interest to Governments, especially those of developing countries.

In the field of energy the Commission has requested that the significance of global or regional problems such as the greenhouse effect and acid precipitation compared to the more direct health effects of energy production and use should be taken into account by the Energy Panel. Concerning the work of the Food and Agriculture Panel the Commission considered that there would be a need for the Panel to examine the health impact of chemical and microbiological contamination of food, cash crop farming, of rangelands management, of inland and ocean fisheries and of other relevant agriculture, fisheries and forestry activities.

The Commission in its report intends to make a sharp distinction between those environmental issues that related directly to human health and well-being, and those related to the management of natural resources which may have health implications. The Commission will also endeavour to reflect a balance between the positive and negative consequences for health of the different activities it considers.

The Panels of the Commission

The four panels on Energy, Food and Agriculture, Industry and Urbanization held their first meeting on 24-29 June 1990. The panels decided on the outline of their respective reports and on the drafting tasks to be assigned to individual contributors from within the panels, as well as to outside experts.

The second meeting was held on 10-14 December 1990. The panels reviewed the contributions and provided detailed guidance that would make it possible

for the Chairmen and the Secretariat to complete the reports, at least in preliminary form, by mid-February 1991. The final text would be available in the autumn of 1991.

(i) Energy Panel

The report will assess the health impact of the main energy resources, i.e. fossil fuels, biomass, hydropower, and nuclear power, as well as the effects of exposure to electro-magnetic force from electricity transmission lines. The different energy sources will be compared and four priority issues examined in detail - indoor and outdoor urban air pollution, climate changes and accidents - as those that are the actual or potential cause of major concern. Research needed to understand more fully the health effects of the energy cycles and to reduce the environmental consequences of the cycles that have health implications, as well as strategies for improving planning and mitigating consequences will be discussed.

(ii) Food and Agriculture Panel (including water resources)

The report will reflect the progress and contributions of agricultural, fisheries and food technologies and their management to meeting the right of individuals to an adequate, safe, nutritious, and affordable food supply, as well as the continuing requirement to apply these technologies in a manner consistent with environmental sustainability. It will analyse the environmental determinants affecting health which are associated with food and agriculture and indicate as far as is feasible their impact on health. The report will endeavour to address the challenges of the next two decades, to identify research and development needs and to propose strategies to manage environmental health concerns in the agriculture, fisheries, food and related water sectors.

(iii) Industry Panel

The report will examine the health implications of the environmental effects of industrial activities by focusing on the 15 industrial sectors considered to cover most of the industry activities. Emphasis will be laid on the benefits that countries, especially developing countries, will derive from industrial development conducted in such a way as to minimize or altogether prevent its harmful effects on the environment. Case studies of countries where poor planning of industrial development and failure to anticipate its environmental consequences have led to serious health problems will be included. The report will deal both with the occupational environment and the environment at large. Because sound environmental planning requires information that is often not available, the report will single out the areas where research is most urgently needed. It will then outline some general strategies required to control the adverse effects of industrial activities, such as the systematic use of environmental impact statements, emergency planning, siting, process management, education for the mass media, and community participation.

(iv) Urbanization Panel

The report will deal with the scale and nature of urban change, the relative significance and interaction of the social and physical environments and the inter-linking of environment, health and development. Issues of rapid urban growth and their impact upon environmental health in cities, especially concerning the basic services and infrastructures of cities in the third world, will be reviewed in the report. Appropriate management techniques will be discussed to assist in decision-making so as to exercise the right choices in urban planning and development and thus reduce adverse environmental and health impacts.

Future work programme

The Commission will hold two further meetings, on 18-22 March 1991 and 15-19 July 1991. Its full report will be submitted to the Director-General of WHO in the autumn of 1991 and then placed before the WHO Executive Board at its eighty-ninth session. It will therefore be made available to the Preparatory Committee at its fourth session in early 1992. However, the Preparatory Committee will, at its third session in August 1991, receive a summary of the Commission's expected conclusions and suggested strategies to prevent or mitigate serious consequences to human health arising from developmental activities and environmental changes.

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CROSS-SECTORAL ISSUES

Summary progress report of the Secretary-General of the Conference on decisions taken by the Preparatory Committee at its first session

Decisions adopted by the Preparatory Committee at its first session

Decision number	Title	Action taken
1/1	Role of non-governmental organizations in the preparatory process for the United Nations Conference on Environment and Development	refer to A/Conf.151/PC/14
1/2	Regional preparation for the United Nations Conference on Environment and Development	refer to A/Conf.151/PC/14
1/3	Operations of the voluntary fund for the United Nations Conference on Environment and Development	refer to A/Conf.151/PC/14
1/4	Dates of the United Nations Conference on Environment and Development	refer to GA res. 45/211

1/5	Representation at the United Nations Conference on Environment and Development	refer to GA res. 45/211
1/6	Report of the Secretary-General of the United Nations Conference on Environment and Development on the activities of the Conference secretariat	refer to A/Conf.151/PC/14
1/7	Dates of the second and third sessions of the Preparatory Committee for the United Nations Conference on Environment and Development	Report of the Preparatory Committee first session (A/45/46)
1/8	Transfer of technology	refer to A/Conf.151/PC/17
1/9	Financial resources	refer to A/Conf.151/PC/18
1/10	Overview of the activities of the United Nations system relevant to General Assembly resolution 44/228	refer to A/Conf.151/PC/14
1/11	Climate change	
	1/11 (a) and (b) - Synthesis Report	refer to A/Conf.151/PC/22
	1/11.2 (c) - Costing Exercise	refer to A/Conf.151/PC/23
1/12	Ozone depletion	The UNCED Secretariat has developed a working relationship with the United Nations Environment Programme and the World Meteorological Organization, for the purpose of preparing an analytical report for the third session of the UNCED Preparatory Committee, on what additional steps need to be taken in this area, over and above the Montreal Protocol of the Vienna Convention, and another report on the effectiveness of the implementation of the provisions relating to financial cooperation and transfer of technology to developing countries. These reports will be prepared, and made available to the Preparatory Committee at its next session, in Geneva, in August 1991.

1/13	Transboundary air pollution	The UNCED Secretariat has requested information from all Regional Economic Commission about their needs and activities related to the issues of transboundary air pollution. This information, once received, along with other information that the Secretariat has assembled, will be used to prepare a report to the third session of the Preparatory Committee on the subject, stressing that international co-operation as needed to enable developing countries to effectively monitor and assess transboundary air pollution, including the discussion of issues of technology transfer, training and additional financial resources.
1/14	Combating deforestation	refer to A/Conf.151/PC/27
1/15	I. Soil loss and desertification and drought	
1/15.	I.(b),(c) - on preparations for and outcome of FAO/Netherlands Conference on Sustainable Agriculture	refer to A/Conf.151/PC/26
1/15.	I.(d) - on integrated management of land resources	refer to A/Conf.151/PC/24
1/15.	I.(a),(e) - on alternative production systems for marginal lands	refer to A/Conf.151/PC/25
	II. Desertification and drought	UNEP is in the process of preparing reports requested by GA resolutions 44/172 A and B. At the same time the Secretariat has initiated consultations with relevant organizations, and has commissioned studies that will review the implementation of the Plan of Action to Combat Desertification and the measures that might be required in combating drought, desertication and land degradation. A report will be presented to the third session of the Preparatory Committee.

1/16	Conservation of biological diversity	refer to A/Conf.151/PC/28
1/17	Environmentally sound management of biotechnology	refer to A/Conf.151/PC/29
1/18	Environmental and development education	refer to A/Conf.151/PC/21
1/19	Provisional agenda for the second session of Working Group I	Report of the Preparatory Committee first session (A/45/46)
1/20	Protection of the oceans and all kinds of seas, including enclosed and semi-enclosed seas, and coastal areas and the protection, rational use and development of their living resources	refer to A/Conf.151/PC/30 and to A/Conf.151/PC/31 (on the London Dumping Convention)
1/21	Protection of the quality and supply of freshwater resources	refer to A/Conf.151/PC/32 and to A/Conf.151/PC/33 (on sustainable use of water resources in agriculture)
1/22	I. Environmentally sound management of wastes, particularly hazardous wastes.	refer to A/Conf.151/PC/34
	1/22.II - Environmentally sound management of toxic chemicals	refer to A/Conf.151/PC/35
	1/22.III - Prevention of illegal traffic in toxic and dangerous products and wastes	The Secretariat requested UNEP, which is updating a report on the implementation of GA res.44/226, and the Regional Economic Commissions, concerning the monitoring and control at the regional and international levels, of the international traffic in toxic and dangerous products and wastes. UNEP is awaiting replies from governments to update its report.
1/23	Provisional agenda for the second session of Working Group II	Report of the Preparatory Committee first session (A/45/46)

1/24	Guidelines for national reports	refer to A/Conf.151/PC/14
1/25	Environment and development	refer to A/Conf.151/PC/16 and to A/Conf.151/PC/15 (on links between poverty and environmental degradation)
1/26	Working group on legal, institutional and all related matters	action being taken
1/27	New and renewable sources of energy	action being taken
1/28	Cross-sectoral issues	
	1/28 (a) on Human Settlements	The Commission on Human Settlements has been requested to pay special attention to the agenda and the mandate of UNCED focusing on the living and working environment of the poor in urban slums and rural areas, in order to make a substantive contribution to the preparatory process of UNCED. The 13th session of the Commission is scheduled to take place from 29 April to 8 May 1991 to discuss inter alia "the critical role and contribution of human settlements and urbanization to environmentally sound and sustainable development and the impact of human settlements and urbanization upon the environment should be among the issues to be considered and addressed within the context of the UNCED." The Secretariat will present a report on this subject to the PrepCom at its third session.
	1/28 (b) on health dimension of environmental problems	refer to A/Conf.151/PC/19
	1/28 (c) and (d) - on relationship between environment and development	refer to A/Conf.151/PC/16
	1/28 (e) - on environmental education	refer to A/Conf.151/PC/21

1/29	Co-operation on transfer of technology and financial resources to developing countries	refer to A/Conf.151/PC/17 and A/Conf.151/Pc/18
1/30	Provisional agenda for the second session of the Preparatory Committee	Report of First session of PC (A/45/46)

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PREPARATORY COMMITTEE FOR THE
UNITED NATIONS CONFERENCE ON
ENVIRONMENT AND DEVELOPMENT
Second session
Geneva, 18 March-5 April 1991
Item 2 (c) of the provisional agenda*

PREPARATIONS FOR THE UNITED NATIONS CONFERENCE ON ENVIRONMENT AND DEVELOPMENT ON THE BASIS OF GENERAL ASSEMBLY RESOLUTION 44/228 AND TAKING INTO ACCOUNT OTHER RELEVANT GENERAL ASSEMBLY RESOLUTIONS: CROSS-SECTORAL ISSUES

Environmental and development education and public awareness

Progress report by the Secretary-General

I. BACKGROUND AND SUMMARY

1. The General Assembly, in section I, paragraph 15 (s) of its resolution 44/228 of 22 December 1989, decided that the United Nations Conference on Environment and Development (UNCED), in addressing environmental issues in the developmental context, should have among its objectives "to promote environmental education, especially of the younger generation, as well as other measures to increase awareness of the value of the environment."

2. The Preparatory Committee referred to it in several of its decisions. 1/ In particular it requested the Secretary-General of the Conference to co-ordinate and consult with the United Nations Educational, Scientific and Cultural Organization (UNESCO) and other relevant organizations in order to develop proposals on environmental education and public awareness for consideration by the Preparatory Committee.

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* A/CONF.151/PC/13.

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3. The Preparatory Committee also requested the Secretary-General of the Conference to draw upon the competence of the organs, organizations and bodies of the United Nations system and other relevant organizations in exploring measures to promote public awareness and education on environment and development, especially of the younger generation, as well as other measures to increase awareness of the risks and possible responses with regard to the issues addressed by Working Group I of the Preparatory Committee.

4. Recommendations were also sought from the Secretary-General of the Conference, in the context of reports requested on several sectoral issues, on promotion of public awareness, education, training and development of endogenous capacities. Specifically mentioned in this connection were the marine and coastal environment, freshwater resources and management of wastes and chemical risks. These questions are taken up in other reports of the Secretary-General of the Conference dealing with specific sectoral issues.

5. A work process has been launched by the secretariat in order to respond to these requests. Views expressed by several delegations during the first session of the Preparatory Committee provided important guidance. Contributions were sought from and made by the United Nations agencies, first of all UNESCO and the United Nations Environment Programme (UNEP), intergovernmental and non-governmental organizations (Organisation for Economic Co-operation and Development (OECD), International Union for Conservation of Nature and Natural Resources (IUCN), International Council of Scientific Unions (ICSU) and others) and private experts.

6. Major studies and reports which dealt with the issue of environmental education, such as "Our common future: report of the World Commission on Environment and Development", 2/ were reviewed. The United Nations Environmental Perspective to the Year 2000 and Beyond 3/ was also taken into account. Consultations held at UNESCO headquarters on 6 to 8 November 1990 with United Nations agencies and relevant intergovernmental and non-governmental organizations (NGOs) concerned with environmental education and public awareness and information provided a valuable input to the work process. An UNCED expert working party engaged in developing proposals on environmental and development education and public awareness also met on 3 and 4 January 1991 at UNESCO headquarters in Paris and discussed the present progress report.

7. The present report is designed to provide useful background material to the members of the Preparatory Committee, in order to promote discussion so that additional guidance is given to the secretariat in developing proposals. There is a pressing need to strengthen the entire educational structure, particularly in developing countries. In the absence of this, the value of any special effort at environmental and development education may be ineffective. However, the present report does not deal with the measures required to strengthen general education, but focuses on the critical need for environmental and development education and public awareness. It explains in summary form the current state of the issue, in particular, the activities of the United Nations system as well as some existing constraints. Some areas for potential action are indicated in the final section of the report.

8. The Secretary-General of the Conference intends to avail himself of the further consideration of this important cross-sectoral issue in preparing a substantial and action-oriented report with concrete proposals to be submitted to the third session of the Preparatory Committee in August 1991.

II. NEED FOR ENVIRONMENTAL AND DEVELOPMENT EDUCATION AND PUBLIC AWARENESS

9. The skill and knowledge which humans possess are critical in determining their interactions with nature. Environmental problems that arise from ignorance or lack of awareness are avoidable. All individuals must become aware of their impact, have access to accurate information, the skills and tools to make environmentally sound decisions and an environmental ethic to guide their actions. In the future environmental literacy will be needed not only by the individual but by society as a whole. Global environmental literacy and competence are critical.

10. The challenge of successful planetary management and development is enormous as it entails both the collaborative development of truly sustainable and ulturally appropriate models and the development of a politically acceptable strategy for implementing the model in every day life. Environmental and development education is critical in both these phases of planning and implementation. Accurate information, gathered globally and used by environmentally competent decision makers at all levels will be essential to devise the policies. What is also crucial is an environmentally aware and literate, and thus more responsible, society supporting the political decisions. As environment and development issues are multinational in nature and not confined by national boundaries, the peoples of the world must share their concerns, knowledge and expertise.

11. The needs for environmental education vary greatly both by country and by specific population groups within the country, ranging from awareness programmes to vocationally specific training and in-service courses. While the needs are high so are the potential benefits of actions and the costs of inaction. The innocent or unintentional ecological damage inflicted by an unaware populace constitutes a major, and largely avoidable, threat to the future of both environment and development. The spilling of oil in even small amounts in one's back yard can destroy groundwater. Industrial examples are also numerous. These damages are usually extremely difficult or expensive to rectify and in some cases irreversible. The need for industry either nationally or locally may pressure an environmentally uninformed community into accepting an ecologically inappropriate enterprise. The end results could eventually cost the nation much more than the enterprise brings in local benefit.

12. Governments and public policy makers must be influenced by and responsive to the tolerance and wishes of the public. An environmentally literate society would allow policy makers to make longer-term appropriate decisions.

13. Environmental and development education and public awareness is crucial at all levels and for all peoples. The more knowledge available in the hands of educated people capable of understanding the information, the greater the chances are of significantly reducing environmental damage and preventing future problems. Accordingly, there is a primary need to strengthen in all countries, especially the developing ones, the entire educational system as a prerequisite to environmental and development education. Environmental and development education is instrumental in seeking and achieving sustainable development.

III. PHILOSOPHY OF ENVIRONMENTAL AND DEVELOPMENT EDUCATION

14. In recent years there has been a surge of support for environmental education, in recognition of the need for it, although it is far from evenly distributed. The description which was internationally approved at Tbilisi, Union of Soviet Socialist Republics, in 1977, and reinforced in Moscow in 1987, is still valid. 4/

15. Environmental education covers the whole environment - natural, cultivated, constructed and social (including political and economic) - and has a time dimension of past and future. It acknowledges the importance of the internal environment of each individual, physical and mental, which so much determines behaviour. It does not seek to push specific solutions to specific problems but to develop in people the ability to seek out all the factors relevant to an issue and make their own assessment of it.

16. It is also holistic and interdisciplinary. It aims to develop not only heightened awareness but understanding of connections and processes, the capacity to make value judgements and assess alternative courses of change, and then to take action to guide change in an environmentally favourable direction. Being oriented towards action means that it aims for more than literacy. Its objective is to develop environmental competence, alongside personal and social competence as a basic objective of education. It treats the human environment as an extension of the person, interdependent with it, to be maintained in a state of health. In many countries it is treated not as a separate element in education but as an essential part of the approach to all subjects.

17. Education until recently has treated the environment as a stage on which humankind can perform what it chooses, and as a supplier of limitless resources. Development and environment and associated education programmes have often been seen as different, even conflicting issues and no links established between them. However, as the environment issue has moved into the centre of economic policy and decision-making, the case for making that link in all areas is overwhelming. Awareness programmes and education can influence behaviour, especially economic behaviour, which in the last instance produces environmental impacts. Hence the need for a sustainable development-oriented education, which should embrace both sides of the same coin. Development properly managed is a creative, action-oriented approach to the environment which is quite consistent with environmental education philosophy. The different people who have been concerned in developing these approaches must work together: their objectives should not be at variance.

18. Environmental and development education is a life-long experience. Education is part of the continuous process of development and its course is determined by many factors. Some of these are guided: by parents in the home, by teachers and lecturers in the formal sector, by a range of organizations and individuals contributing to informal education, by employers or by law. Some are less guided or unguided: by the environment in which development takes place, peer groups, role models (real or televised) and the social norms they represent. Some of the latter influences may be more potent than the guided ones and cannot be ignored.

19. Whether formally or not, everyone is involved in education and all have a responsibility for how others will relate to their environment. Environmental and development education offers a new opportunity for those who are concerned about promoting sustainable development to help to guide human behaviour towards a better relationship with the world. Every intervention into the human environment is likely to have an educational impact which can be assessed: its success in the long term may well depend on how successful education has been.

20. Environmental and development education is for all. Realization of educational objectives requires the involvement of many different groups: the decision makers in government, the specialists who advise them in universities, research institutes, professional bodies and employers' organizations, the national and local government departments, planners, economists, lawyers, industrial and commercial bodies, examining bodies, voluntary organizations and others who channel policies towards those who put them into effect, religious organizations, the media, teachers and students in formal education and finally the general public. All require particular approaches suited to the parts they play in the system.

IV. CURRENT STATE OF THE INTERNATIONAL PROGRAMME ON ENVIRONMENTAL EDUCATION

21. A great deal of activity is already under way at all levels in the field of environmental education.

22. The broad-ranging issues of environmental education, training, awareness and information have been reviewed and put into strategic perspective in the United Nations System-wide Medium-term Environment Programme for 1990-1995. 5/

23. Within the United Nations system, it is UNESCO that bears the major responsibility for environmental education, mainly through the International Environmental Education Programme (IEEP). IEEP was launched by UNESCO in co-operation with UNEP in 1975 in the context of recommendation 96 of the United Nations Conference on the Human Environment which stated that

> "The Secretary-General, the organizations of the United Nations system, especially the United Nations Educational, Scientific and Cultural Organization, and the other international agencies concerned, should, after consultation and agreement, take the necessary steps to establish an international programme in environmental education, interdisciplinary in approach, in school and out-of-school, encompassing all levels of education and directed towards the general public, in particular the ordinary citizen living in rural and urban areas, youth and adult alike, with a view to educating him as to the simple steps he might take, within his means, to manage and control his environment". 6/

24. The objective of IEEP is to foster the incorporation of environmental education into national educational policies and plans, curricula, materials and training of educational personnel for all types and levels of education in the United Nations Member States. Most notably, IEEP has achieved a multiplier effect of environmental education for all types and levels of education at the global, regional and national levels.

25. The major impact of the IEEP is:

(a) General awareness among educators (education ministries and universities) of the need for developing environmental education as an essential dimension of formal and non-formal education;

(b) Clarification of the concept and philosophy, goals and objectives, guiding principles and needs and priorities of environmental education;

(c) Development of strategies and guidelines for incorporating environmental education into ongoing educational policy and planning as well as into formal and non-formal educational reforms;

(d) Development of strategies and guidelines for the integration of environmental education into curricula for primary and secondary schools, pre-university technical and vocational education, teacher education and university general education;

(e) Development and dissemination of environmental education modules especially curricular prototypes for primary and secondary schools and their corresponding teacher education programmes, and fostering their local adaption;

(f) Orientation and training, in environmental education, of curriculum developers, teacher educators, educational planners and administrators to provide a multiplier effect for promoting and developing environmental education at the national level.

26. IEEP conducts its work through the exchange of information, research and experimentation, curricula and materials development and personnel training towards environmental education for all. Exchange of information and experience has been fostered by Connect, the quarterly newsletter published in six languages and disseminated to 17,500 institutions and professionals around the world, a Directory of Institutions published and disseminated in English, French and Spanish and networking among active institutions. Research and experimentation has been promoted through the implementation of 95 pilot projects in cooperation with national educational institutions. Curricula and materials development has been fostered through the development of environmental education guidelines and strategies, modules on environmental themes such as energy, urbanization, deforestation, problem-solving approaches, interdisciplinarity, and environmental education prototypes curricula for primary and secondary schools and their corresponding teacher education programmes based on subregional needs for Africa, South Asia, the Arab States, Latin America and the Caribbean and the Association of South-East Asian Nations (ASEAN) region. Thousands of key educational personnel have been trained through several international, regional and subregional training seminars and workshops and 110 national training workshops. Among the global activities of IEEP were the Belgrade International Workshop (1975) which produced the Belgrade Charter, the Intergovernmental Conference on Environmental Education (Tbilisi, 1977) and the International Congress on Environmental Education and Training (Moscow, 1987) which adopted the International Strategy for Action in the Field of Environmental Education and Training for the 1990s.

27. UNESCO also has contributed to the overall education and information field, within the context of its environmental science programmes: The Man and the Biosphere (MAB) Programme, the International Hydrological Programme (IHP) and the programmes of the Intergovernmental Oceanographic Commission (IOC). Through research, these programmes generate technical information that can contribute to sound decision-making about the environment and development, to providing substantive input to up-to-date and policy-relevant information materials, and to the training of specialists in developing countries. UNESCO's overall work in environmental education in the next two to three years will be targeted to the production of innovative materials for different non-specialist user groups, with particular emphasis on curriculum development and decision makers, and to better integrating environmental and developmental concerns.

28. In the third medium-term plan of UNESCO (1990-1995) priority has been accorded to the development of environmental education as part of basic education, including literacy and post-literacy education, for young people and adults alike, as well as primary education and secondary general, technical, vocational and higher education.

29. UNEP implements a comprehensive information and public relations programme in support of its global and regional priorities, such as environmental education. This involves providing communications support and information to the general public and the media as well as specific outreach programmes to defined sectors such as youth, women, parliamentarians, industry, religious groups, the entertainment community and various other NGOs. UNEP's publications and audiovisual materials range from scientific and specialized works to more popular titles. UNEP works closely with other United Nations agencies and international organizations in carrying out its information activities, which substantially contribute to raising public awareness in the field of environment and development.

30. Apart from the above other agencies and bodies within the United Nations, (Food and Agriculture Organization of the United Nations (FAO), World Bank, International Labour Organisation (ILO), United Nations Development Programme (UNDP), United Nations Children's Fund (UNICEF), World Meteorological Organization (WMO), World Health Organization (WHO), United Nations Institute for Training and Research (UNITAR) and others) have programmes of information and more specifically of training concerning certain aspects of the environment. UNESCO has been fostering cooperation and coordination in environmental education and training in the United Nations family.

31. NGOs such as ICSU, IUCN and others have played an increasingly significant role in fostering environmental awareness through publications, workshops and seminars at various levels. Universities are stepping up efforts to promote environmental and development education at the higher level.

32. Recent regional meetings and conferences leading towards UNCED have demonstrated that a number of public awareness activities are taking place or are being planned. The issue of education and awareness was taken up by the Regional Ministerial Conference on the follow-up to the World Commission Report at Bergen, 7/ and at the Meeting of the Conference on Security and Co-operation in Europe (CSCE) on the Protection of the Environment at Sophia. There is, especially in developing countries, a great demand for free and wider flow of environmental information.

V. NATIONAL LEVEL

33. The current state of environmental education is not uniform in all countries and in all regions. Certain countries have felt the pinch and pain of environmental problems such as deforestation, desertification, soil erosion and drought. Others have felt problems of pollution, urban crowding, waste disposal, etc. Most have undertaken actions at various levels for developing environmental education. Some countries have done little more than hold sporadic awareness seminars and/or developed some teaching materials for schools. The situation is far from satisfactory in incorporating environmental education into all types and levels of education. However, it is significant that there is a growing awareness concerning the need for environmental and development education as Governments increasingly feel compelled to support and promote efforts in this field. Grass-roots requirements and local initiatives including those by NGOs have been stressed as the most important factor of change.

34. Constraints are numerous at various levels for the development of environmental education. In many instances it is the weakness of the national education system in general, although in the developing countries especially environmental education cannot be seriously considered except in close relation to overall educational needs. In the execution of the activities of IEEP, it is the lack of needed human resources and in particular funds for facing the challenges of promoting environmental and development education in the context of priorities that may be identified by UNCED. The resistance of decision makers to educational changes is a constraint that may be overcome by efficient and continuous training activities. Some other constraints are crowded curricula, changing the timetables for environmental education activities outside the classroom, lack of pre-service and in-service environmental education training for millions of on-the-job teachers with their millions of students, lack of innovative teaching/learning materials together with problems of distribution of those available and lack of coordination among institutions involved in promoting environmental education development at the international, regional and national levels.

VI. POTENTIAL AREAS OF ACTION

35. The following areas of strategic importance have been identified where action needs to be taken for environmental and development education and public awareness, to prepare the ground for the twenty-first century.

36. Development considerations should be incorporated into environmental education. Environmental and development education and the promotion of public awareness need to be recognized as indispensable tools for bringing about the kind of political, economic and social change required to preserve the integrity of the Earth and to preserve the options for future generations to progress and to enjoy a better quality of life.

37. Governments and the private sector need to realize that they can enjoy direct and valuable benefits from having an informed public and professional community. Education, training and public awareness need to be seen as an underpinning for successfully implementing their initiatives for environmentally sound and sustainable development.

38. Innovative means must be found to communicate the messages of environment and development to the public, and particularly to those segments that so far have not been sensitized to these questions, and to the new actors within Governments, industry and elsewhere who are now called upon to take environment and/or development into account in their work. New technologies should be used, including telecommunications capabilities. Particular attention needs to be given to the vital role of the media.

39. There is a compelling need to integrate the environment and development dimension into all curricula, as well as teachers' training.

40. Different user groups need to be identified for education and awareness building initiatives. Information materials need to be developed which address the particular needs of these different target audiences, including educators and teachers, schoolchildren, various professional groups (e.g. lawyers, economists, industrialists, decision makers, journalists and others). Prototype material should be developed, particularly by the international organizations, so that advantage can be taken of the multiplier effect that such materials can have.

41. Dissemination and exchange of the voluminous existing educational and public information material needs to be improved. At present potential users are not sufficiently aware of what is available, especially what is produced by the agencies and bodies of the United Nations system and by some international NGOs and at the national level. The United Nations system should play a leadership role, as well as improve its own performance in this regard.

42. Access to information about environment and development is an indispensable prerequisite to any effective programme of education.

43. Newly acquired scientific information about environment and development needs to be transmitted more quickly and systematically to educators, communicators and decision makers.

44. The particular needs of the developing countries with respect to education and public awareness should be better articulated and priority should be given to meeting these needs, especially to capacity building. Strengthening their entire education system should be a matter of prime concern.

45. Traditional values, philosophies and lifestyles should be seen as a valuable source of guidance and information for educating and heightening the awareness of people, especially those living in industrialized societies.

46. National reports prepared for UNCED should provide detailed and updated information about the status of environmental and development education and public awareness and identify needs for future action. Such information would serve as the basis for a better assessment of the world-wide situation in this field.

47. Since education and public awareness need to underpin action to address the critical problems of environment and development, these considerations should be examined in all aspects of the work of the Preparatory Committee and

of UNCED. Recommendations concerning the sectoral issues should include education and public awareness, which may appear as one common denominator for the different outputs of the Conference.

48. UNCED should mark the beginning of a period of intense national, regional and international activity in environmental and development education and public awareness. A concerted effort will need to be made to communicate the output of UNCED to people everywhere, in an appropriate language and form, and to provide the resources required to achieve the objectives that Governments will have set in this universally important field.

Notes

1/ Official Records of the General Assembly, Forty-fifth Session, Supplement No. 46 (A/45/46), annex I, decisions 1/18, 1/20, para. 1 (e), 1/21, para. 1 (h), 1/22, para. 1 (c) and 1/28, para. (e).

2/ A/42/427, annex, chap. IV.

3/ Resolution 42/186 of 11 December 1987, sect. IV.

4/ See UNESCO, Final report of the Intergovernmental Conference on Environmental Education, Tbilisi, USSR, 1977 (1978) and International Strategy for Action in the Field of Environmental Education and Training for the 1990s (1987). See also Trends in environmental education since the Tbilisi Conference (1983) and Environmental education: selected activities of the UNESCO-UNEP international environmental education programme 1975-1990 (1990).

5/ UNEP/GCSS.1/7/Add.1.

6/ Report of the United Nations Conference on the Human Environment, Stockholm, 5-16 June 1972, (United Nations publication, Sales No. E.73.II.A.14 and Corr. 1).

7/ See A/CONF.151/PC/10.

8/ Report of the Meeting of the Conference on Security and Co-operation in Europe on the Protection of the Environment, November 1989, Sophia, Bulgaria.

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Second session
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Working Group I
Item 1 (a) of the provisional agenda

PROTECTION OF THE ATMOSPHERE: CLIMATE CHANGE

Synthesis Report on Onging Processes and Recommendations

Report of the Secretary-General of the Conference

I. INTRODUCTION

1. This paper was prepared to respond to decision 1/11 (a) of the First Session of the UNCED Preparatory Committee, requesting the "... Secretary-General ... to prepare a report that analysed and synthesized the results of those activities, and made recommendations thereon." and "... to prepare recommendations concerning the contribution of the Preparatory Committee to the negotiating process for a framework convention on climate change ...". 1/

1/ Report of the Preparatory Committee for the United Nations Conference on Environment and Development, Official Records of the General Assembly, A/45/46, decision 1/11, paragraphs (a) and (b).

2. Two main courses of events have been taking place in the United Nations system in response to the problem of climate change. Firstly, the First World Climate Conference and the World Climate Programme prepared the way for the recently held Second World Climate Conference (October/November 1990). Secondly, the creation of the Intergovernmental Panel on Climate Change (IPCC), which published its First Assessment in August 1990, has been a major milestone. These processes are referred to in more detail in the sections which follow.

3. In addition a number of other relevant processes are in place within the United Nations system, in particular in WMO, UNEP, FAO, UNESCO, IOC, UNDP and the World Bank, as well as outside it, such as, for example the International Geosphere-Biosphere Programme (IBGP) of the International Council of Scientific Unions, as well as intergovernmental and non-governmental organizations, such as the Organisation for Economic Co-operation and Development, the Latin American Energy Organization, the International Union for the Conservation of Nature, the Asian Energy Institute, the Stockholm Environment Institute, the World Resources Institute, Greenpeace International, just to name a few. Many of these have prepared inputs into the IPCC and the SWCC, and/or will be preparing inputs for the Negotiating Process on Climate Change and to the 1992 Conference.

4. The publication in 1987 of the report of the World Commission on Environment and Development, and the preparation by UNEP of the Environmental Perspective to the Year 2000 and beyond have firmly put the issue of climate change on the international political agenda.

5. The report which follows was prepared by the Secretary-General of the Conference with the help of a number of United Nations agencies, and other individual experts, who were members of the UNCED Working Party on Atmosphere. The First Assessment Report of the Intergovernmental Panel on Climate Change (IPCC), and the reports of the Second World Climate Conference (SWCC) were particularly relied upon as inputs to this paper.

II. THE SECOND WORLD CLIMATE CONFERENCE (SWCC)

6. Planning for the Second World Climate Conference began in 1986. The Montreal Protocol on Substances that Deplete the Ozone Layer was a headline event in 1987. The following year was marked by the Toronto Conference on the Changing Atmosphere, and the creation of the Intergovernmental Panel on Climate Change (IPCC). In 1989, the Hague Declaration was signed by the Heads of State/Heads of Government of 25 countries. Later the same year 67 countries meeting in the Netherlands endorsed the Noordwijk Declaration on Climate Change.

7. In light of these developments the sponsoring agencies decided that the Second World Climate Conference should include a ministerial declaration in addition to the original scientific/technical component and should be delayed until late in 1990, when the publication of the IPCC First Assessment Report was expected.

8. The objectives and goals of the Conference were to create awareness, and to assess current state of knowledge on climate change and greehouse gases, and the requirements for future scientific activity and the implications for public policy.

9. In terms of outputs, the Conference was expected to formulate recommendations for the continuing World Climate Programme, with a primary goal of ensuring that authoritative scientific information is continually obtained and provided to Governments; as well as to provide opportunity for the Ministers to consider follow-up actions, in an effort to identify elements that could form the basis for negotiations of the climate convention, needs of developing countries, and goals for enhancing intergovernmental co-operation.

10. By 1989, three international agencies had formally joined WMO as sponsors of the SWCC: the United Nations Environment Programme (UNEP), the United Nations Educational Scientific and Cultural Organization (UNESCO) and the International Council of Scientific Unions (ICSU). In 1990 the Intergovernmental Oceanographic Commission of UNESCO and the Food and Agriculture Organization joined.

III. INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE (IPCC)

11. The Tenth World Meteorological Congress (Geneva, 4-28 May 1987), recognizing that an interdisciplinary and multi-agency approach is necessary to understand the effects of increasing concentrations of greenhouse gases on the Earth's climate and on ways, particularly, in which these changes may impact socio-economic patterns and institutions, asked the Executive Council of the WMO "to arrange appropriate mechanisms for addressing the scientific and other aspects of the greenhouse gases". It further requested the Executive Council to keep under review:

(a) Existing international co-ordinating mechanisms for addressing scientific aspects of greenhouse gases;

(b) The progress of the World Climate Research Programme;

(d) The co-ordination of the World Climate Research Programme.

12. Responding to this directive, the Executive Council of WMO, at its thirty-ninth session (Geneva, 1-5 June 1987), had requested the Secretary-General of WMO, in co-ordination with the Executive Director of UNEP to establish an intergovernmental mechanism to carry out the intentions of the Tenth Congress.

13. In response to these actions, the Executive Director of UNEP and the Secretary-General of WMO decided that any intergovernmental mechanism should aim at providing the basis for the development of a realistic and effective internationally-accepted strategy for addressing climate change. They further

decided that the efforts in this regard should be channelled into two individual but interactive streams: one stream concentrating on assessments of available scientific information related to various aspects of climate change and the other on formulations of realistic response strategies for national and global action. To this end, it was decided to establish an Intergovernmental Panel on Climate Change (IPCC).

14. The WMO Executive Council suggested that the Panel should consider the need for:

(a) Identification of uncertainties and gaps in our present knowledge with regard to climate change and its potential impacts, and preparation of a plan of action over the short term in filling these gaps;

(b) Identification of information needed to evaluate policy implications of climate change and response strategies;

(c) Review of current and planned national/international policies related to the greenhouse gas issues;

(d) Scientific and environmental assessments of all aspects of the greenhouse gas issue and the transfer of these assessments and other relevant information to Governments and intergovernmental organizations to be taken into account in their policies on social and economic development and environmental programmes.

15. The Panel met for its first plenary session in Geneva on November 1988. At that time it elected its officers and established three Working Groups:

(a) Working Group I to assess available scientific information on climate change;

(b) Working Group II to assess the environmental and socio-economic impacts of climate change; and

(c) Working Group III to formulate response strategies.

16. The IPCC also established a trust fund to assist experts from developing countries to attend the IPCC meetings and to cover the IPCC Secretariat expenses.

17. During its second plenary session (Nairobi, June 1989), IPCC established its Special Committee on the Participation of Developing Countries to promote, as quickly as possible, their full participation in IPCC activities. The number of developing countries participating in the IPCC meetings has increased noticeably from 11 in 1988 to 54 in 1990.

18. In accordance with the provisions of resolution 44/207 of the United Nations General Assembly and the respective decisions of the governing bodies of WMO and UNEP, the IPCC successfully completed its

First Assessment Report during its fourth plenary session (Sundsvall, Sweden, 27-31 August 1990). The Report is the first intergovernmental assessment of the climate change issue. Some 1,000 scientists and experts from over 70 countries contributed and the Report has undergone extensive peer reviews.

In 1,200-odd pages, the Report consists of:

The IPCC Overview;

The Policymakers Summaries of the three Working Groups;

The Policymakers Summary of the Special Committee; and

The full three reports of the Working Groups.

19. The Executive Council of WMO, and the Governing Council of UNEP have requested their respective executive heads to jointly arrange for the continuation of IPCC as a joint WMO and UNEP body to, inter alia:

(a) Undertake scientific and technical work in support of the negotiations of a framework convention on climate change;

(b) Periodically update the assessments on climate change;

(c) Undertake further environmental and socio-economic analyses of the policy options;

(d) Take all appropriate steps to ensure broad dissemination of its work;

(e) Evaluate the special problems of the developing countries;

(f) Ensure that its future work is supportive of and responds to the needs and requests of the climate convention negotiating group;

(g) Further pursue studies on the incremental costs to developing countries and small island States of combating climate change, as well as on the sources from which such costs may be met and on mechanisms for the channelling of these resources.

IV. SUMMARY OF THE MAIN ISSUES RELATED TO CLIMATE CHANGE

20. The Second World Climate Conference considered the report of the IPCC, as well as other information in the preparation of its own statement. A summary of the issues from the Scientific/Technical Conference Statement, and from the Ministerial Declaration which followed it is presented here:

A Summary of the Scientific/Technical Statement of the SWCC

21. Emissions resulting from human activities are substantially increasing atmospheric concentrations of the greenhouse gases. These will enhance the natural greenhouse effect, resulting on average in an additional warming of the Earth's surface. Without actions to reduce emissions, global warming is predicted to reach 2-5° C over the next century, a rate of change unprecedented in the past 10,000 years. The warming is expected to be accompanied by a sea-level rise of 65 cm ± 35 cm by the end of the next century. There remain considerable scientific uncertainties particularly with respect to the timing, magnitude and regional patterns of predicted climate change.

22. Climate change and sea-level rise would seriously threaten low-lying islands and coastal zones. Water resources, agriculture and agricultural trade, especially in arid and semi-arid regions, forests, and fisheries are especially vulnerable to climate change. Climate change may compound existing serious problems. In many cases the impact will be felt most severely in regions already under stress, mainly in developing countries.

23. Global warming induced by increased greenhouse gas concentrations is delayed by the oceans; hence, much of the change is still to come.

24. Although many of the response or feedback processes are poorly understood, it appears likely that, as climate changes, these feedbacks will lead to an overall increase rather than a decrease in greenhouse gas concentration.

25. Under "Business-as-Usual" (extrapolation of present trends) assumptions, it is projected that emissions will continue to grow in the future. As a result, the effect on the Earth's radiation balance corresponds to a doubling of the pre-industrial concentration of carbon dioxide by the year 2025, unless remedial actions are taken.

PER CAPITA CO_2 EMISSIONS FROM THE ENERGY SECTOR
(In tonnes of carbon per capita)

	1985	2000	2025
Industrialized Countries	3.12 (74%)	3.65 (68%)	4.65 (56%)
Developed Countries	0.36 (26%)	0.51 (32%)	0.84 (44%)
GLOBAL TOTAL	1.06 (100%)	1.22 (100%)	1.56 (100%)

Notes: The table is taken from the IPCC First Assessment Report, Working Group III. The figures do not include emissions other than carbon dioxide, or the effect of carbon sinks. The emissions are those from the IPCC Reference Scenario.

26. A clear scientific consensus has been reached on the range of changes to be expected. Although this range is large, it is prudent to exercise, as a precautionary measure, actions to manage the risk of undesirable climate change. In order to stabilize atmospheric carbon dioxide concentrations by the middle of the twenty-first century at about 40 per cent above pre-industrial concentrations, a continuous world-wide reduction of net carbon-dioxide emissions by 1 to 2 per cent per year starting now would be required. A 15-20 per cent reduction in methane emissions would stabilize atmospheric conditions of that gas.

27. Technically feasible and cost-effective opportunities exist to reduce CO_2 emissions in all countries. Such opportunities are sufficient to allow many industrialized countries to stabilize CO_2 emissions from the energy sector and to reduce these by at least 20 per cent by 2005. The measures include increasing the efficiency of energy use and employing alternative fuels and energy sources. In addition, reversing the current net losses in forests, by intensification of agricultural practices, as well as by reforestation would decrease present carbon emissions and also increase storage of carbon.

28. Present observational means for monitoring the climate system are inadequate for operational and research purposes. High priority must be placed on the provision and international exchange of data.

29. There is an urgent need to create a Global Climate Observing System (GCOS) built upon the World Weather Watch Global Observing System and the Integrated Global Ocean Service System and including both space-based and surface-based observing components.

30. The impacts of climate variability on human socio-economic systems have provided major constraints to development. Climate change may compound these constraints. Intensified efforts are required to refine further our ability to predict short-term climate variability, anticipate climate impacts, and identify rational strategies to mitigate or prevent adverse effect.

31. Among the most important impacts of climate change will be its effects on the hydrological cycle and water management systems, and through these, on socio-economic systems, such as, for example on food production patterns. Increases in incidence of extremes, such as floods and droughts would cause increased frequency and severity of disasters.

32. Important uncertainties remain regarding global food security. The potential impact on food production in developing countries, with more than half the world's population, could be more uncertain than recent reviews suggest.

33. High priority needs to be given to research on effects of rising CO_2 concentrations on crop productivity and to research on agricultural emissions, and to clarify the costs and possible trade-offs arising from limitation measures.

34. New or strengthened institutional mechanisms are required to upgrade natural resource inventories, research strategies and extension services to raise forest and agricultural productivity and minimize emissions.

35. In order to stabilize atmospheric concentrations of greenhouse gases while allowing for growth in emissions from developing countries, industrialized countries must implement reductions even greater than those required, on average, for the globe as a whole.

36. The direct impact of climate change on people, their health and cultural heritage, could be severe. There is likely to be increased health inequity between peoples of developing and developed countries. Climatic change could result in increasing numbers of environmental refugees with associated increases of ill-health, disease and death among them.

37. Climate change has such important implications for the sustainability of development that policy responses, and the commitment of financial and other resources, are justified for that reason alone. Some economic policies can distort markets so they harm the environment and contribute to global warming and sea-level rise. There is an imperative need for development policies that not only reduce global warming trends but also increase economic and social resilience.

38. While increasing forest cover can contribute to the slowing of global climate change, this is not the major cure of the problem. Five priority areas can be identified: (1) assessment of national opportunities for biomass-based carbon sinks; (2) optimal biomass management; (3) accelerated research and (4) monitoring systems; and (5) supporting the development of an international instrument on conservation and development of the world's forests linked with climate and biodiversity conventions.

39. Developing countries are being asked to participate in the alleviation of the legacy of environmental damage from prior industrialization. If they are to avoid the potentially disastrous course followed by industrialized countries in the past, they need to adopt modern technologies early in the process of development, particularly in regard to energy efficiency. Developing countries must not go through the evolutionary process of previous industrialization but rather, must "leapfrog" ahead directly from a status of underdevelopment through to efficient, environmentally benign, technologies.

40. A massive and sustained flow of scientific and technological expertise towards the development of the intellectual resources, technical and institutional capacity of the developing countries is a necessary complement to the efforts of those countries.

41. Furthermore, co-ordinated international activities and policy development is needed for:

(a) Global measurement and research efforts through WCP, IGBP, and other related international programmes;

(b) Assessment of functions of a continuing IPCC to support negotiation of and providing technical input to a convention;

(c) Development of a Convention on Climate Change.

Summary of the Ministerial Declaration of the SWCC

42. The Ministers recognized climate change as a common concern of mankind, and committed themselves to take active and constructive steps without further delay. Recognizing further that the principle of equity and the common but differentiated responsibility of countries should be the basis of any global response to climate change, developed countries must take the lead to reduce global net emissions, and enter into and strengthen co-operation with developing countries to enable them to adequately address climate change without hindering their national development goals and objectives. There is a need to meet the requirements of developing countries, that adequate and additional financial resources be mobilized and the best available environmentally-sound technologies be transferred expeditiously on a fair and most favourable basis.

43. There is need to strengthen research on climate mechanisms, climate change and sea-level rise, such as undertaken by the World Climate Research Programme and the International Biosphere-Geosphere Programme, in order to reduce uncertainties in predictions of regional as well as global climate change; to identify yet unknown climate-related issues; to design sound response strategies; and to intensify research on the social and economic implications of climate change and response strategies.

44. In order to achieve sustainable development, precautionary measures to meet the climate challenge must anticipate, prevent, attack, or minimize the causes of, and mitigate the adverse consequences of, environmental degradation that might result from climate change. The potentially serious consequences of climate change give sufficient reasons to begin by adopting response strategies even in the face of significant uncertainties.

45. The ultimate global objective should be to stabilize greenhouse gas concentrations at a level that would prevent dangerous anthropogenic interference with climate. As a first step, emissions of greenhouse gases not controlled by the Montreal Protocol on Substances that Deplete the Ozone Layer need to be stabilized. Contributions should be equitably differentiated according to countries' responsibilities and their level of development.

STABILIZATION OF ATMOSPHERIC CONCENTRATIONS

Reductions in the human-made emissions of greenhouse gases required to stabilize concentrations at present-day levels.

Carbon Dioxide	<60%
Methane	15-20%
Nitrous Oxide	70-80%
CFC-11	70-75%
CFC-12	75-85%
HCFC-22	40-50%

Note that stabilization of each of these gases would have different effects on climate.

Source: IPCC First Assessment Report, Working Group I.

46. All developed countries should establish targets and/or feasible national programmes or strategies to limit emissions of greenhouse gases by the time of the 1992 United Nations Conference on Environment and Development.

47. Developing countries have as their main priority alleviating poverty and achieving social and economic development. Their net emissions must grow from their, as yet, relatively low energy consumption to accommodate their developing needs. Narrowing the gap between the developed and the developing world would provide a basis for full partnership of all nations and would assist the developing countries in dealing with the climate change issue. To enable developing countries to meet incremental costs required to take the necessary measures, adequate and additional financial resources should be mobilized and best available environmentally-sound technologies transferred expeditiously on a fair and most favourable basis.

48. Consideration should be given to the need for funding facilities, including the proposed World Bank/UNEP/UNDP Global Environmental Facility, a clearing-house mechanism and a new possible international fund composed of adequate additional and timely financial resources and institutional arrangements for developing countries. Such funding should be related to the implementation of the framework convention on climate change and any other related instruments that might be agreed upon. In the meantime, developed countries are urged to co-operate with developing countries to support immediate action in addressing climate change including sea-level rise without imposing any new conditionality on developing countries.

49. Financial resources channelled to developing countries should, inter alia, be directed to:

(a) Promoting efficient use of energy, development of lower and non-greenhouse gas emitting energy technologies;

(b) Arranging transfer of the best available environmentally-sound technology on a fair and most favourable basis, and promoting their development;

(c) Co-operating with them to enable their full participation in international meetings on climate change;

(d) Enhancing observational networks, to facilitate research, monitoring and assessment;

(e) Rational forest management practices and agricultural techniques which reduce greenhouse gas emissions, and increase sinks;

(f) Enhancing their capacity to develop various programmes to address climate change.

50. Promotion of energy efficiency is the most cost-effective immediate measure. Transport energy use should attract special attention in many countries.

51. There is no single quick-fix technological option for limiting greenhouse gas emissions. However technological innovation as well as individual and social behaviours and institutional adaptations are key elements of any long-term strategy that deals with climate change in a way that meets the goal of sustainable development. Therefore, countries should intensify their efforts in technological research, development and dissemination of appropriate and environmentally-sound technologies, and take effective measures to remove barriers to their dissemination.

52. The protection and management of forest ecosystems must be well co-ordinated and preferably compatible with other possible types of action related to reduction of emission of greenhouse gases, rational utilization of biological resources, provision of financial resources, and the need for more favourable market conditions for forest products.

53. The particular problems and needs of low-lying coastal and small vulnerable island countries, some of whose very existence is placed at risk by the consequences of climate change, needs also to be addressed.

54. Appropriate precautionary and control measures need to be developed and implemented at regional and national levels, to counter the increasing degradation of land, water, genetic and other productive resource bases by drought, desertification and land degradation.

55. Negotiations on a framework convention on climate change should begin without delay after the forty-fifth session of the General Assembly. It is highly desirable that an effective framework convention, containing appropriate commitments, and any related instruments, be signed at the 1992 United Nations Conference on Environment and Development.

V. GENERAL ASSEMBLY RESOLUTION 45/212

56. The United Nations General Assembly, at its forty-fifth session has decided to establish a single intergovernmental negotiating process under the auspices of the General Assembly, supported by the United Nations Environment Programme and the World Meteorological Organization, for the preparation by an Intergovernmental Negotiating Committee of an effective framework convention on climate change, containing appropriate commitments, and any related instruments as might be agreed upon.

57. The Intergovernmental Negotiating Committee will be served by an ad hoc Secretariat in Geneva, to be established by the Secretary-General of the United Nations, in co-operation with the United Nations Environment Programme and the World Meteorological Organization.

58. The first negotiating meeting will take place in Washington, D.C., United States of America, in February 1991. Further meetings will be scheduled, taking into account, among other issues, the timing of the meetings of the UNCED Preparatory Committee.

59. The General Assembly, requested the Intergovernmental Negotiating Committee to keep the UNCED Preparatory Committee informed, on a regular basis, of the progress of the negotiations, including by preparing a final report on the negotiations for the 1992 United Nations Conference on Environment and Development.

60. The General Assembly further requested the Intergovernmental Negotiating Committee to take into account relevant developments in the preparations for the United Nations Conference on Environment and Development, that the Preparatory Committee may bring to its attention.

VI. MAJOR ENVIRONMENT DEVELOPMENT ISSUES FOR CONSIDERATION BY THE UNCED PREPARATORY COMMITTEE

61. With the decision 45/212 of the United Nations General Assembly, the intergovernmental negotiating process to formulate a framework convention on climate change is now in place, as a process running parallel to the activities of the UNCED Preparatory Committee. The mandate of the Intergovernmental Negotiating Committee is to develop the framework convention and possible protocols.

62. The mandate of the UNCED Preparatory Committee, on the other hand is to consider, among other issues, the problem of climate change, and to propose appropriate response strategies for the world community, taking into consideration the development dimension, and the cross-sectoral linkages on the agenda of the 1992 Conference, especially those of technology development and transfer, financial requirements, modalities of new funding, and the related institutional and legal issues. These two issues are closely related and complementary and must be the subject of close and continuing consultation and co-ordination.

63. In this regard, the Preparatory Committee is expected to formulate a set of actions and programmes as part of the proposed Agenda-21 in response to the problem of climate change, which will support any potential climate change convention to be opened for signature at the 1992 Conference. Furthermore, this set of actions and programmes must reflect environmental as well as developmental concerns, and must be directed to all the main issues raised in General Assembly resolution 44/228. In the development of these actions and programmes, the Preparatory Committee will need to give special emphasis on the cross-sectoral objectives of the 1992 Conference, as defined in the same resolution 44/228, such as, in particular, objectives of technology transfer, institutional framework and sources and modalities of finance.

64. Taking the above, as well as the present state of knowledge on the question of climate change into account, possible elements of such a set of actions and programmes, to be considered by the Preparatory Committee could include the following:

Setting Objectives/Targets

65. The Second World Climate Conference has urged countries to make assessments of their greenhouse gas emissions and sinks, and consequently by the time of the 1992 Conference develop targets to stabilize and reduce these emissions, and prepare national programmes to reach these targets. In the developing countries, this needs to be carried out in a way that does not hinder their development objectives. These could be reported, to the extent that they are available by that time, in the national reports being prepared for the 1992 Conference.

66. While setting of objectives and targets can be done by countries on a unilateral basis, these will have to be co-ordinated, and depending on the outcome of the negotiations, perhaps agreed upon at regional and global levels. This will have to consider different ways of calculating and accounting for greenhouse gas emissions, such as per capita, per land area, present or cumulative, etc. Comprehensive greenhouse gas accounting tools, such as the one developed by the Stockholm Environment Institute will need to be used.

67. Methodologies to monitor, assess and account for these greenhouse gas emissions and sinks are not widely available, particularly in the developing countries. In some instances, particularly with respect to biospheric sources and sinks, considerable research will be required before uncertainties are reduced to a satisfactory degree. Such research will frequently have to be organized on an international basis, for example through the IGBP. It will also require considerable transfer of relevant monitoring and related technologies, as well as know-how to, and training of experts in developing countries.

Energy Efficiency/Supply

68. Rational use and production of energy, and in particular energy efficiency measures have been identified as the most important technology options to contribute to rapid CO_2 emission reductions worldwide. Recognizing the major differences between industrialized and developing countries in this regard, a comprehensive global energy strategy needs to be developed by the time of the 1992 Conference, to support a potential protocol on energy-related issues to the framework convention on climate change. This strategy could include the following:

(a) Assessment of concrete energy efficiency potentials in countries, and consequently setting national, and where possible sectoral targets on energy efficiency increases, in order to contribute to a global energy efficiency increase of approximately 2 per cent per year;

(b) Assessment of additional energy needs which will be required for economic development, particularly in the developing countries, and the development of options which can provide for these needs using the most efficient and most environmentally-sound technologies, with particular emphasis on New and Renewable Energy Sources (NRSE), as well as on advanced fossil-fuel conversion systems;

(c) Concerted programmes to assist, particularly the developing countries, in developing technologies and training human resources;

(d) Concerted international programmes to make available, on a preferential basis, especially to developing countries, environmentally-sound, efficient energy production and end-use technologies, and related information.

Transport

69. The transport sector in many countries is one of the most important sources of carbon dioxide emissions, and indeed other pollutants. Concerted efforts to increase the efficiency of automobile fleets; increase the shares of public versus private transport; as well as general efforts to plan human settlements in ways which would result in lower overall greenhouse gas emissions should be central to national, regional and global programmes to reduce climate change.

Biomass Sinks

70. Increasing forest cover can contribute to carbon sequestration from the atmosphere, yet increasing forest cover simply to slow down climate change is not the major cure for the problem, even if the ambitious Noordwijk targets for a net reforestation rate of 12 million hectares per year are achieved. Increasing the organic content of soils in many countries can also act as substantial carbon sinks over a much wider area than is possible through afforestation. An important priority in most areas, however, is to reduce

present deforestation, land degradation, and soil loss rates as soon as possible. The Preparatory Committee may wish to consider the following potential actions in this area:

(a) Assessment of national opportunities for biomass-based carbon sinks, such as by increasing forest and grassland cover, increasing organic content of soils, or other means;

(b) Promotion of sustainable biomass management and land use policies, taking into account development needs, as well as environmental constraints and opportunities, including issues of biological diversity;

(c) The above actions will need to be supported by increased research, and improved capabilities, especially in the developing countries, to monitor and assess the related resources;

(d) Integrating the above considerations into the ongoing negotiations related to the climate, biodiversity, and possible forestry conventions.

Adaptation Strategies

71. The world is already committed to a certain level of climate change, even if greenhouse gas emissions were immediately halted. Furthermore, due to the delaying effect of the oceans, some of the changes being caused today will appear later. While pursuing vigorously various limitation strategies, countries must start to develop programmes to adapt to changed climate.

72. Climate change, while itself causing a number of negative impacts, will exacerbate some existing problems of land degradation, climate variability, water availability, and insufficient subsistence food production. Particularly affected will be the already vulnerable individuals, countries and regions. This is especially a problem for low-lying island States and coastal areas, and arid regions.

73. A fundamental requirement to be able to develop national or regional adaptation strategies is to have access to reliable climate predictions at the regional and local levels, especially since climate change will be very non-uniform. Some regions will experience considerably greater changes than others. Considerable advances in scientific knowledge, monitoring and assessment will be necessary to achieve this. Furthermore, it is also important to estimate reliably the potential costs (and benefits, where applicable) of climate change, including if no actions are taken, and when specific limitation and adaptive strategies are introduced. While in a number of industrialized countries studies to analyse these costs are under way, this is not the case for all countries. Countries should be helped to undertake such studies, and their results should be put together in regional and global frameworks. (Refer to UNCED paper A/CONF.151/PC/23 also.)

74. Given the particular impacts of climate change on low-lying coastal areas and island States, coastal area management, including considerations of climate impacts, will need to be a special priority.

Technology

75. The development and the transfer of efficient and environmentally-sound energy production and end-use technologies, as well as policy and institutional frameworks to promote them, will be crucial elements in the energy strategies which need to be implemented, both to support the development process, and to support greenhouse gas reduction strategies worldwide.

Finance

76. The various programmes which will need to be put in place, including for technology development, technology transfer, will cost money. These costs should be assessed, as part of the "costing exercise" referred to above.

77. In order to cover these incremental costs, especially to developing countries, new sources of funding and funding modalities may need to be considered. These may be linked to the specific protocols of the framework convention on climate change. Existing efforts, such as the IBRD/UNEP/UNDP Global Environmental Facility may need to be strengthened and supplemented by others.

VII. RECOMMENDATIONS ON THE NEGOTIATING PROCESS

78. The actions and programmes developed as part of the UNCED preparatory process will provide for co-operative actions on a voluntary basis in many of the same areas that will ultimately be covered by mandatory provisions of a convention and/or its protocols. The First Assessment Report of the IPCC and the Reports of the SWCC provide a sound basis for this. Development of an agenda for such programmes and activities and their implementation on a voluntary basis will therefore make an important contribution to the negotiating process and help to establish the framework and basis for implementation of measures included in the convention/protocols when they come into force.

79. It is of the utmost importance therefore that the Preparatory Committee be fully informed concerning the progress of negotiations, that it be represented at meetings of the Intergovernmental Negotiating Committee and that the UNCED Secretariat participate actively in negotiating meetings and related activities and work closely with the ad hoc Secretariat being established in Geneva to support the negotiating process.

80. The UNCED Secretariat has prepared a short document (presented on behalf of the Secretary-General of UNCED at the first negotiating meeting, to be held in Washington, D.C., in February 1991) on its activities and plans on climate related issues for the 1992 Conference. The document is available as an addendum to this report.

81. An important responsibility of the Preparatory Committee in respect to the negotiating process will be to ensure that it fully takes into account and incorporates satisfactory provision for the cross-sectoral linkages and development dimensions of the issues that are subject to negotiation. The following are some examples of important areas in which these cross-sectoral linkages and development dimensions will need especially to be taken into account:

Cross-sectoral linkages

- Agriculture
- Oceans
- Forest
- Biodiversity

Development Dimension

- Need for Energy for Development, which is "GHG-friendly"
- Need for Forestry and Land-use Policies which respect development needs, and are "GHG-friendly"

82. It will be especially important for the UNCED Preparatory Committee to bring to the attention of the Intergovernmental Negotiating Committee issues arising from its work that it deems relevant to the Convention negotiations, particularly as they relate to the integration of the developmental and cross-sectoral objectives identified in General Assembly resolution 44/228, and, in particular, in paragraph 8 of the resolution adopted by the Preparatory Committee at its organizational session.

83. In light of the prospect of negotiations beginning in respect of a convention on biodiversity and the possibility of negotiations in respect of a global forestry convention and the close relationship that exists between these two areas and the proposal for inclusion of a forestry protocol in the convention on climate change, it will be especially important to ensure close co-ordination and interaction as between these negotiating processes. Given that each of them will also be directly relevant to the preparations for UNCED, its Preparatory Committee and Secretariat may be expected to take an active and leading role in facilitating such co-ordination and interaction.